

Stavrianopoulos et al.

Serial No.: Not Yet Known

(Divisional of S.N. 10/096,075, filed March 12, 2002)

Filed: Herewith

Page 3 [Preliminary Amendment (Accompanying Divisional Application
Under 37 C.F.R. §1.53(b)) --- January 22, 2004]

PLEASE AMEND THIS APPLICATION AS FOLLOWS:

In The Title:

Change the title of the invention to:

-- LABELING REAGENTS AND LABELED TARGETS COMPRISING
NONMETALLIC PORPHYRINS --

In The Claims:

Cancel claim 1.

Add new claims 287-303 as follows:

Claim 1 (Canceled Herein)

Claims 2-286 (Previously Canceled)

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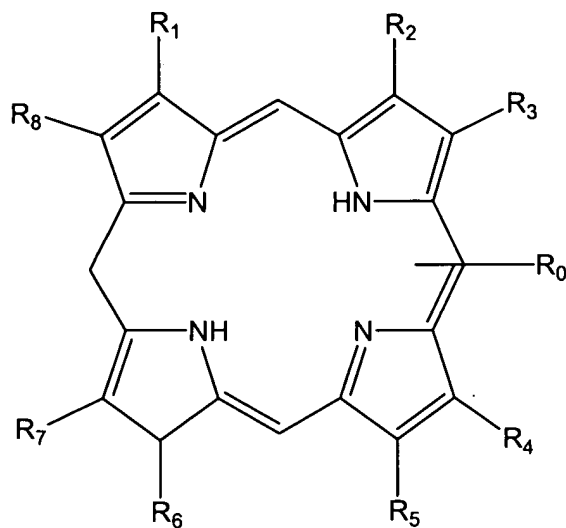
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287. (NEW) A labeling reagent comprising a nonmetallic porphyrin, said reagent comprising:



wherein R₀ is a reactive group and is attached directly or indirectly to said nonmetallic porphyrin, and R₁ through R₈ independently comprise hydrogen, aliphatic, unsaturated aliphatic, cyclic, heterocyclic, aromatic, heteroaromatic, charged or polar groups, or any combinations of the foregoing.

288. (NEW) The labeling reagent of claim 287, wherein said reactive group R₀ is attached directly or indirectly to any one of the four non-pyrrole positions.

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289. (NEW) The labeling reagent of claim 287, wherein said reactive group R_0 comprises sulfhydryl, hydroxyl, amine, isothiocyanate, isocyanate, monochlorotriazine, dichlorotriazine, mono- or di-halogen substituted pyridine, mono- or di-halogen substituted diazine, maleimide, aziridine, sulfonylhalide, acid halide, hydroxysuccinimide ester, hydroxysulfosuccinimide ester, imidoester, hydrazine, azidonitrophenyl, azide, 3-(2-pyridyl dithio)-propionamide, glyoxal or aldehyde.

290. (NEW) The labeling reagent of claim 287, wherein as a reactive group R_0 is capable of forming a carbon-carbon linkage with a target.

291. (NEW) The labeling reagent of claim 287, wherein said reactive group R_0 comprises an alkene group, an alkyne group or a halogenated compound.

292. (NEW) The labeling reagent of claim 287, wherein any of said R_1 through R_8 alkyl groups comprises methyl, ethyl or propyl.

293. (NEW) The labeling reagent of claim 287, wherein any of said R_1 through R_8 alkyl groups further comprises a polar or charged group.

294. (NEW) The labeling reagent of claim 287, wherein said reactive group R_0 is attached indirectly to said nonmetallic porphyrin through a linker arm.

295. The labeling reagent of claim 294, wherein said linker arm comprises at least two consecutive peptide bonds.

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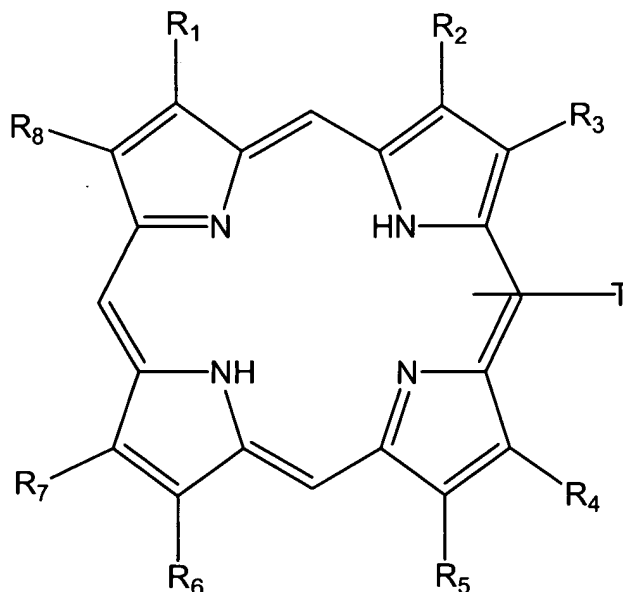
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296. (NEW) A labeled target comprising a nonmetallic porphyrin, said reagent comprising:



wherein T is a target molecule attached directly or indirectly to said nonmetallic porphyrin and R₁ through R₈ independently comprise hydrogen, aliphatic, unsaturated aliphatic, cyclic, heterocyclic, aromatic, heteroaromatic, charged or polar groups, or any combinations of the foregoing.

297. (NEW) The labeled target of claim 296, wherein said reactive group R₀ is attached directly or indirectly to any one of the four non-pyrrole positions.

298. (NEW) The labeled target of claim 296, wherein said target T comprises a protein, a peptide, a nucleic acid, a nucleotide or a nucleotide analog, a receptor, a natural or synthetic drug, a synthetic oligomer, a synthetic polymer, a hormone, a lymphokine, a cytokine, a toxin, a hapten, an antibody, a carbohydrate, a sugar or an oligo- or polysaccharide.

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299. (NEW) The labeled target of claim 298, wherein said nucleic acid or nucleotide or nucleotide analog is modified.

300. (NEW) The labeling reagent of claim 296, wherein any of said R₁ through R₈ alkyl groups comprises methyl, ethyl or propyl.

301. (NEW) The labeling reagent of claim 296, wherein any of said R₁ through R₈ alkyl groups further comprises a polar or charged group.

302. (NEW) The labeling reagent of claim 296, wherein said target T is attached indirectly to said nonmetallic porphyrin through a linker arm.

303. (NEW) The labeling reagent of claim 302, wherein said linker arm comprises at least two consecutive peptide bonds.

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